

EF

Notice of Allowability

Application No.

10/000,346

Examiner

Qutub Ghulamali

Applicant(s)

SUNG, SANG HUN

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/05/2006.
2. ☒ The allowed claim(s) is/are 1,2,5-8,10 and 13-25.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Acknowledgement

1. This Office Action is responsive to the Amendment filed by the applicant on 07/05/2006.

Response to Remarks / Amendment

2. Applicant's remarks/amendment, filed 07/05/2006, have been fully considered and as a result claims 1, 2, 5-8, 10 and 13-25, are now indicated allowable. The applicant, by amendment, has cancelled claims 4 and 12. In order to advance prosecution in the case, an examiner's amendment is considered necessary so as to correct for some minor deficiency with claim 14, filed 07/05/2006. Examiner's amendment follows.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Frederick D. Bailey on 7/18/2006.

4. The application has been amended as follows:

IN THE CLAIMS:

Claim 14, line 8, after “converted phase value to create” the word “the” has been replaced with -- a first and second --.

Claim 14, line 8, after “a first and second phase information for” word “the” has been replaced with -- a --.

Reason for Allowance

5. Applicant’s remarks/amendment, see pages 10-11, filed 07/05/2006, with respect to rejection of claim(s) 4 and 12, under 35 U.S.C 112, 2nd have been fully considered. The rejection hereby is considered moot in light of applicant’s amendment/cancellation of claims 4 and 12.

6. Claims 1, 2, 5-8, 10 and 13-25 allowed.

7. The following is an examiner’s statement of reasons for allowance:

Regarding claims 1 and 20, the prior art of record in combination with other claimed limitation neither teaches nor renders obvious a method and an apparatus in a communication system for estimating phase information comprising:

a phase estimator that generates first and second decoded data based on the received data, the estimator having an averager that receives the first output signal from the CPU, the first and second decoded data and the converted information to generate the phase information, wherein the converted information comprises converted phase values (cosine A and sine A) of a received pilot signal.

Such limitations as recited in independent claims highlighted above, is neither anticipated nor rendered obvious by the art of record.

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Regarding claim 8, the prior art of record in combination with other claimed limitation neither teaches nor renders obvious a method for estimating phase information comprising: estimating synchronization data, based on received data; generating a Cos A signal and a Sin A signal to a converted phase value of the received data in a pilot signal; generating first and second decoded data based on the received data and a code, the code corresponding to a synchronization time of the synchronization data; outputting first and second average values of phase information obtained by averaging the synchronization data and the first and second decoded data and using at least the converted phase value and delayed phase information.. Such limitations as recited in independent claim highlighted above, is neither anticipated nor rendered obvious by the art of record.

Regarding claim 14, the prior art of record in combination with other claimed limitation neither teaches nor renders obvious a method for estimating phase information comprising: averaging the synchronization signal with first and second decoded data obtained during the averaging period using at least the converted phase value to create a first and second phase information for a first and second averaging periods, wherein the converted phase value comprises cosine A signal and a sine A signal. Such limitations as recited above, is neither anticipated nor rendered obvious by the art of record.

8. Claims 2, 5-7, 10, 13, 15-19 and 21-25 are allowed by virtue of their dependency to independent claims highlighted above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.
July 18, 2006.

M. Ghayour
MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER